AMENDMENT TO THE SPECIFICATION

[0032] Fig. 2B shows the second phase of the first embodiment of the present invention. In this phase the stored information is retrieved including the background noise removal tonemap and the image data (that may or may not be pre-processed). The retrieved data is provided to the background noise removal module 25 which includes a pixel conversion module 25A. The pixel conversion module 25A converts the image data pixel values using either the background noise removal tonemap or an idle tonemap dependent on user selection module 24. The idle tonemap corresponds to an identity function such that the pixels values remain the same. The background noise removal tonemap function maps pixel values identified as background to a selected pixel value effectively removing any unwanted background noise. In the case in which the background noise removal LUT is stored by data storage module [24] 28, then pixel conversion 25A is performed by indexing into the noise removal LUT with each of the image data pixel values to obtain new pixel values.

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[0043] In one embodiment, the modules and processes shown in Figs. 2-5 can be performed in a similar or modified manner as described in U.S. Application No.: 09/704358 entitled "System and Method for Enhancing Scanned Document Images for Color Printing" filed November 1, 2000, [and] assigned to the assignee of the subject application, issued as U.S. Patent No. 6,621,595 on September 16, 2003, and incorporated herein by reference. Accordingly, the scanned document image data can be initially color converted. For instance, the scanned document image data may be color converted from a RGB color space to a YC_bC_r color space. In this embodiment, the YC_bC_r color space is better adapted for obtaining statistical information about the background of the scanned document image data. More particularly, statistical analysis can be limited to the luminance channel for simplified computations and adequate approximation results. Other color spaces having a separate luminance component may also be utilized.

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